



## Low-Maintenance Landscaping Design Contest

### Application

Entry Deadline • June 30, 2005

Name: **Portia Brown/Simply Natural**  
City: **Louisville** State **\_KY\_** Zip **\_40205\_**  
County **\_Jefferson**

Category: **x** Sun \_\_\_\_ Shade \_\_\_\_ Mixed \_\_\_\_ Homeowner

Has the design been implemented (planted)? **Y & N -see narrative**

Location: **Outer Bluegrass Region Jefferson/Shelby/Oldham**

Size of Landscaped Area (Square Feet) **11,000 (1/4 acre)**

Did you list two alternative plants for every plant selected for your landscape design? **Yes see narrative; this application includes a minimum generic mix designed for an Outer Bluegrass prairie seeding and a sample from an actual installation adjusted to fit size competition requirements. Species selections can be adjusted to fit variations in soil, moisture, contour, aesthetic, and other site specific factors.**

Are at least 50% of the plants native to the region? **Y 100% for this installation**

What source (book or website) did you use to determine what is native? **Landscape Restoration Handbook, Wildflowers and Ferns of KY, Trees and Shrubs of KY, and Prairie Moon Nursery Catalog, others from my library**

Are any invasive plants used as listed by the KY Exotic Pest Plant Council? **NO**

Are you a professional garden designer or a professional landscape architect? **Y - I am a Native Plant Consultant, Educator, and Advocate**

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**Please attach this page to back of the entry.**

This three page application must accompany each entry. The first page must be affixed to the **back** of the 24" X 36" foam board or poster board. The second and third pages are affixed to the front of the foam/poster board in a location of the designer's choice. The landscape design must be attached to the front of the foam/poster board in accordance with directions on the Fact Sheet. All entries must be delivered to the Louisville Metro Air Pollution Control District, 850 Barret Avenue, Louisville, KY 40204 by 5:00 p.m., June 30, 2005. Contact Phyllis Fitzgerald, 574-5322 if you have questions.

**Low-Maintenance Landscaping Design Contest  
Application**

**Category:** ☒ **Sun**      ☐ **Shade**      ☐ **Mixed**      ☐ **Homeowner**

**List the characteristics of the lot to be used for the design selected.** This application includes a minimum generic mix designed for an Outer Bluegrass mesic prairie seeding and a sample from an actual installation adjusted to fit size competition requirements. Species selections can be adjusted to fit variations in soil, moisture, contour, aesthetic, and other site specific factors.

**Flat** Easiest      **Slope** Gentle to moderate slope. This design can be applied to a variety of sunny sites.

**New Subdivision Lot X Established Neighborhood X (either)** designs shown of the poster are in relatively new developments.

**Orientation to sun (Show North, South, East, West):** South or West ideal, but any orientation with 6 hrs of sun per day can work. Orientation of sample installation (Laurel) is northwest.

**Amount of shade:** For purposes of a residential installation for a straight prairie the site would be full sun and the site for a savannah would be largely open to the sun with some degree of shaded area under one or more trees or shrubs. Shade varies in a true savannah from full sun to deep shade, thus plants that tolerate both variations in sun, shade, and wind are used.

**Existing landscaping plants/trees:** Sample installation site (Laurel residence) has bluegrass fescue turf mix in full sun or in an open area with some trees/shrubs. Balance of site is comprised of various combinations of turf, trees, shrubs, and perennial/annual garden beds. Most homeowners will be removing turf grasses to install a native matrix wildflower/grassland meadow as suggested by this design model.

**Describe the history, physical and mineral characteristics of the soil:** The generic design model presented here is for a mesic prairie plant community suited to the silty clay loams of our region. The sample installation and second example drawing are for sites in far eastern Jefferson County shown in the General Soil Map for Jefferson County as being in the Russellville-Beasley-Fairmont soil association (more specifically in DcB Dickson or LsC2 Lowell silt loam) with moderate slopes.

**Have you had the soil tested?** No. On site observation of the soil characteristics is usually sufficient to decide on the soil model (silt, clay, loam/wet-dry-medium range) for a prairie/savannah installation. The county Soil Survey can provide more detailed information and a soil test can be done, but is not generally as critical to the success of a seeding installation as it would be to other types of installations.

**Soil pH:** unknown.

**What soil amendments (fertilizers, compost, etc.) will be needed for growing chosen plants?** None - the seed mix or planting plan only includes plants suited to the soil characteristics

**Why do you regard this landscape as low-maintenance?** Once established routine lawn care chores such as constant weekly mowing, watering, raking, and chemical treatments are essentially eliminated in the planted area. Fertilizers are also not recommended. There are definitely some maintenance requirements that use some of the same equipment but do so less frequently. **This type of landscape also helps restore natural process of our eco-region, processes that are self-sustaining.**

This model offers a base matrix for a sustainable landscape that will create a high quality habitat for native plants and animals, help reduce stormwater runoff by encouraging infiltration of rainwater into the soil, and reduce environmental impacts of continual mechanical or chemical landscape maintenance. This design also provides a model for natural landscape buffers between varied usage areas, such as recreational/social areas, utility/access roads, formal gardens, herb/vegetable gardens, etc. The ultimate goal is to integrate the principles of environmentally sound landscape practices with those of garden design to provide sustainable and attractive regionally focused prairie/savannah landscapes. As the core matrix is established a variety of simple elements can be employed to enhance perceptions of the space; these include artistically styled mown pathways and borders, garden art and bird baths/ bird houses. The model is suitable for large or small sites, flat or gentle to moderately sloping sites under a variety of cultural conditions.

List maintenance equipment, techniques, and the estimated amount of time needed for weekly maintenance. (Type of mower, trimmer, etc.; 1 or ½ or ¼ hour/week). There are definitely some maintenance requirements that use some of the same equipment but do so less frequently. This type of installation does not require a given number of hours per week; but rather, requires periodic inspection and maintenance. Most maintenance work is done in the spring or fall...leaving hot summers to play!

**Long term mowing maintenance** is designed to mimic prescribed burning maintenance; that is, fall burns/mowing are thought to favor the wildflowers and spring burns/mowing to favor the grasses. This is best accomplished by simply dividing your meadows into two or three “management units”; this encourages ecological diversity and landscape interest. For a ¼ acre site, you might use a two year cycle and two management units. Mow one management unit/ half the site in rotation each year. The undisturbed plots will help preserve over-wintering butterfly chrysalises and provide cover and nesting habitat for birds. Maintenance mowing should be done right to or within one inch of the ground in early to mid spring or mid to late fall. To the extent possible; the cuttings are removed to allow as much sunlight as possible to the ground level. Add the cuttings to the compost! For a ¼ acre, a string trimmer is practicable.

If needed, mechanical or manual cutting or glyphosate herbicide spot treatments can also be done to nip any incoming weeds before they get a foothold.

Even though ongoing maintenance is comparatively low, establishment is a slow process. The standard for meadow establishment is 3 to 5 years. Having patiently and methodically prepared your site for this initial seeding, you are no doubt ready to see the results. Be patient and observant as your meadow develops. Use this time to become more attentive to the natural world in your own yard- soon you will be seeing something new or something you have seen before in a new way almost every time you look!

#### **First Season:**

- **Mowing:** You can probably expect to mow about once a month the first year; although actual frequency depends on amounts of rainfall and the density and height of weeds. DO NOT allow weeds to set seed before mowing/cutting back (most weeds begin to set seed at a height of more than 9 to 12 inches). **A string trimmer or a hand sickle works well on small sites.** The goal is to chop up the weeds so they dry out rapidly and do not smother the desired seedlings.
- It takes time to learn and differentiate weeds from desired plants when they are very young. You may need some help identifying the desirable, undesirable, and neutral plants. It is also important to disturb the soil as little as possible during establishment phases. During the first two establishment years, do not hesitate to call a consultant or seek advice from people who have experience with this type of

installation. Again, getting involved with organizations that promote native plants and/or actively volunteer in managing this type of natural area provides invaluable insights.

### **Second Season:**

The sites should be mowed to the ground as soon as they green up in the early spring of the second growing season. If there is heavy thatch from mowing, raking will be needed as well. Mowing to the ground at this time **mimics prescribed burning** maintenance by opening the soil up to warm sunlight needed for growth. Depending on the amount of weedy species present, additional mowing may be done in mid spring to early summer. In the second year some weeds may be pulled by hand. **Anytime you hand pull a weed the goal is to create as little soil disturbance as possible.** This is accomplished by placing your feet at the base of the weed being pulled and/or strongly tamping back the soil with your feet after pulling. Soil disturbance is an invitation for more weed seeds to sprout up. You will not completely eliminate all weeds from the site; however, in time the native plants will mature and out-compete the weeds.

Estimated watering needs per 21 day drought (hours of watering with one hose): Native wildflowers and native grasses are natural companions with complementary root systems that work together to squeeze out weeds and provide extremely efficient use of both water and nutrients. **Once established supplemental watering should not be required.** Watering guidelines during the establishment phase:

- **Water:** While I have seen many successful seeding installations in our region that received absolutely no supplemental watering, some watering will help seed germination. Neil Diboll of Prairie Nursery offers this guideline:
  - For the first 6-8 weeks (now through mid July) water every other day for 15 to 30 minutes in the early morning. Watering later in the day is either ineffective (evaporation) or leads to excess moisture levels at night that can result in seed loss by fungal attack.
  - After eight weeks water only if it does not rain for one week.
  - Over-watering can drown seedlings, especially with clay soils. (so I'd say to err on the side of less watering)

### **List any chemical applications required:**

- Although the use of chemicals is not mandatory, it can speed up the process of site preparation and help combat invasive weeds. Site preparation typically requires the use of a glyphosate herbicide (ones labeled as safe for aquatic application, brand names such as Rodeo or Accord, must be used on wet sites/adjacent to ponds, creeks or other water features and they work very well on all types of sites but are more expensive and less readily available than typical glyphosate herbicides (Roundup is a widely recognized brand name product sold in most local hardware/gardening stores). Naturally label instructions on all chemicals must be followed explicitly. References listed also give instructions for chemical free site preparation methods such as smothering or repeated tilling with cover crops; for those with the patience to spend a year or two on site preparation this is no doubt the most environmentally friendly approach.
- Post planting spot treatments may be needed during the establishment phase to remove weeds. Here again weeds can be removed manually or by repeated mechanical treatment, such as spot mowing. Even this type of mowing is far less than traditional turf maintenance.
- Once established the native prairie/ savannah species should not require further chemical treatments unless surrounding areas pose a significant threat due to the presence of invasive species. Adjacent areas should be assessed for such invasive species prior to installation and if present a plan for addressing the

issue should be in place. Proper site preparation is also crucial to reducing the potential for invasives to impact the planting site. Sometimes invasive species come into an area post planting and have to be met head-on as quickly as possible. Once established native meadows are generally less vulnerable than they would be during establishment phase, barring excessive pressure from adjacent sites.

Estimate retail cost of:

Plants/Seed: In the \$70 range for the suggested generic seed mix. Naturally deluxe high diversity seed mixes are more expensive; plants are optional additions.

Soil amendments: **\$0;**

Grading: **\$0;**

Tilling: see other;

Other (Site preparation and actual installation): **Not to exceed \$1,600 in sample installation given.** A good basic ¼ acre seeding installation can definitely be done for \$1800 including professional native plant consulting services, labor and all related equipment or products; however, there are many variables affecting cost. Site size, grade, general condition, preparation and installation methods, as well as product choices all affect total cost. Planting plugs instead of seeding is definitely much more expensive; however, \$1,800 is sufficient to plant plugs on smaller sites typical of older established neighborhoods. While the initial costs of establishing a sustainable native landscape are higher than traditional lawns, **long term maintenance requirements are far less** than mown turf or traditional gardens. The initial costs are quickly recovered and the benefits continue to accrue for years to come by virtue of the self-sustaining nature of native plant communities.

List estimated cost of all landscaping materials: Roughly \$70 for generic seed mix to \$125 for sample installation provided herein. See sample installation pricing outline herein.

List the plants to be used, including common name, botanical name\*, and price. Use separate sheets for alternate plants, with consistent numbering. Cost for alternative plants need not be listed, nor kept to a certain dollar amount.

This application includes a generic mix designed for a mesic prairie seeding. Species selection can be adjusted to fit variations in soil, moisture, contour, aesthetic, site size, and other site specific factors. Details of a sample installation including seed mix and installation pricing is included. A list of some common alternatives species with cultural requirements is included. Higher diversity, though expensive, is desirable.

### **SEE ATTACHED: Generic High Economy Base Seed Mix for ¼ Acre Mesic Site**

- This base mix can be adjusted to fit a variety of site conditions. In order to finalize a seed mix, site specific factors should be taken into consideration. It is wise to seek help in assessing your site and finalizing your seed mix and design. Get input from a Native Plant Consultant with prairie/savannah experience. Other helpful resources include your Soil and Conservation District, NRCS, Fish and Wildlife, Salato Native Plant Program. Join and volunteer to help organizations that grow native plants, promote native plants, restore natural areas, etc. Consult soil survey maps and/or do soil tests. Read books, then go see existing installations to observe and learn from installations/restorations in your region.

- **Time and money spent in the planning stages pays off in the long run.** The more you learn up front the greater pleasure you are likely to have in the results and the more successful your installation is likely to be.

<b>Generic High Economy Base Seed Mix for ¼ Acre Mesic Prairie Meadow</b> <b>For full sun mesic residential soil conditions common in Jefferson, Shelby and Oldham Counties.</b>						
ITEM	Notes	DESCRIPTION		QTY in LB	Price/LB	AMOUNT
1	A	Big Bluestem	<i>Andropogon gerardii</i>	0.75	9.50	7.13
2	A	Little Bluestem	<i>Schizachyrium scoparium</i>	0.50	12.00	6.00
3	A	Indian Grass	<i>Sorghastrum nutans</i>	0.25	9.50	2.38
4	A	Switchgrass	<i>Panicum virgatum</i>	0.50	7.70	3.85
			<b>Subtotal Grasses</b>	2.00	LB	19.35
				QTY in OZ	Price/OZ	AMOUNT
5	B	Illinois Bundleflower	<i>Desmanthes illinoensis</i>	2.00	0.53	1.06
6		Blackeyed Susan	<i>Rudbeckia hirta</i>	1.00	1.72	1.72
7		Greyheaded Coneflower	<i>Ratibida pinnata</i>	2.00	3.06	6.13
8		Rattlesnake Master	<i>Eryngium yuccafolium</i>	1.00	7.25	7.25
9	B	Purple Prairie Clover	<i>Dalea purpureum</i>	2.00	1.72	3.44
11		Lance Leaved Coreopsis	<i>Coreopsis lanceolate</i>	0.50	1.97	0.98
12		Bergamot	<i>Monarda fistulosa</i>	1.00	7.81	7.81
13		Purple Coneflower	<i>Echinacea purpurea</i>	2.50	1.72	4.30
			<b>Subtotal Forbs</b>	12.00	OZ	32.69
	C	Cover crop (Annual Rye/ Redtop)	<i>Lolium multiflorum</i> <i>/Agrostis alba</i>	4.00	OZ	1.50
<b>Totals for this mix</b> Native seed (2.9 lbs) <b>Overall Seeding Rate:</b> <b>12 lb/ac</b> <b>Forb/grass ratio: 30% / 70 %</b> See General D Considerations				3.12	LB	\$ 53.54
				Shipping/Handling		8.03
				Sales Tax 6%		3.69
				<b>Total Seed Cost</b>		<b>\$ 65.26</b>
Legume Options: At least one species per mix to help enrich the soil/fix nitrogen.				Price/OZ		
5	B	Partridge Pea	<i>Cassia Fasciculata</i>	0.56		
9	B	Roundheaded Lespedeza	<i>Lespedeza capitata</i>	7.81		
9	B	White Prairie Clover	<i>Dalea candidum</i>	1.72		

- This base mix can be adjusted to fit variations in soil, moisture, contour, aesthetic, and other site specific factors. In order to finalize a seed mix and seeding rate, site specific factors should be taken into consideration. It is wise to seek help in assessing your site and finalizing your seed mix and design. Consult soil survey maps and/or do soil tests. Get input from a Native Plant Consultant with prairie/savannah experience. Other helpful resources include your Soil and Conservation District, NRCS,

Fish and Wildlife, Salato Native Plant Program. Join and volunteer to help organizations that grow native plants, promote native plants, restore natural areas, etc. Read books, then go see existing installations to observe and learn from installations/restorations in your region.

- **Time and money spent in the planning stages pays off in the long run.** The more you learn up front the greater pleasure you are likely to have in the results and the more successful your installation is likely to be.

#### NOTES regarding **Generic High Economy Base Seed Mix for ¼ Acre Mesic Site:**

**A.** Adjustments are made to meet specific site conditions and other design factors. Descriptive lists show a number of alternative species for a variety of requirements.

1. Typical adjustments for drier or wetter sites include:
  - Little bluestem will not tolerate wet sites but will tolerate partial shade. Indian grass also prefers drier sites but is more adaptable. Big bluestem and switchgrass adapt to a wide range moisture conditions from wet mesic to dry. In very wet sites sedges, rushes, and moisture adapted species would be used. Sedges are also being used on drier sites.
  - There are many species that are well suited to each site variation or design consideration. The alternative listing shows some more common ones. Also see catalogs referenced below.
2. Adjustments are made to reflect various installation methods. For example, hydro-seeding and broadcast seeding methods require higher seeding rates than no till drill installations.
3. Adjustments are made to reflect desired height, color, and texture within the constraints of the physical site and related plant communities. As a rule of thumb forb/grass ration should not exceed 50/50 for a seeding installation; additional forbs can be plugged in subsequent years if desired.

**B.** Legumes which fix nitrogen and help enrich the soil and offer significant wildlife value. At least one legume should be included in the mix for all but the very wettest sites.

**C.** Cover crops are generally cool season grasses that help hold the soil during establishment phase. Native cool season grasses, such as Canada wild rye or Virginia wild rye, can also be used but are more expensive.

**D.** General considerations:

- See descriptive list of some common alternatives species with cultural requirements. Catalogs offered by highly respected businesses such as Prairie Moon Nursery (MN) and Prairie Nursery (WI) offer excellent catalogs with cultural guides but it is important to remember that not everything listed is native to KY and that a the same plant may respond somewhat differently in other parts of its native range or in the context of a different ecosystem. These catalogs also provide fine installation guidelines.
- **Beware** of wildflower mixes that do not give species lists and amounts. Many packaged wildflower mixes contain a predominance of annual species that give immediate color but will not persist over time. Some of these mixes also contain species that are listed as invasive in our region. At the same time there are a number of non-native non-invasive annuals and perennials that can be

used to provide maximum color, especially in the spring when the native sun loving plants are not as colorful. To maintain the color level over time these would ultimately need to be reseeded in subsequent years.

- It is advisable to both use plants that are native to your region and, to the extent possible, to use seed provided through local ecotype plant producers/distributors. This not only helps restore the native plant communities of your region, it also helps support the local businesses/producers. Prices shown reflect local grower prices in 2005, which also compare favorably catalog prices from nurseries in other regions. When using non-local seed sources, it is best to use sources whose seed is collected within the Interior Plateau ecoregion.
- **When working with property located close to an intact natural area or natural area restoration site, the natural areas manager should be contacted when planning your installation.**

### **Sample installation:**

A portion of the landscape in process for the Laurel family residence provides a realistic example of this type of installation for the site size limitations of this competition. This example of total installation costs including consultation and physical installation further demonstrates the affordability of this type of native landscape for use on appropriately situated residential sites. There is no such thing as a “no maintenance” landscape but this model greatly reduces the unhealthy impacts of more frequent mechanical and chemical treatments. Design considerations are always important; thus, placement and shape of the meadow should take into consideration all of the elements of good design used in planning a more traditional landscape. Such factors include (but are not limited to):

- Views from both within and outside the site.
- Access for maintenance
- Overall accessibility to various usage areas within the site
- Seasonal changes within and surrounding the installation site
- Borders and humanizing elements

A general plan drawing for the Bland residence demonstrates the flexibility of this prairie /savannah design model. Property owners might choose to do some areas dominated by native grasses and others by wildflowers. The shape and size of the installation can be adjusted to fit any sunny site.



**SAMPLE INSTALLATION**  
**Laurel Residence Native Grass/Forb Installation**  
**Initial Installation Summary adjusted to ¼ acre**  
Fisherville, KY 40023-9706

**Objective:** Develop a more natural landscape using native species to provide a more scenic experience of the property and reduce mowing maintenance. Targeted areas for this season are the hillside facing the pool/deck. The total area is approximately 0.25 acres.

**Project description:** Install native grassland meadows in both areas using shorter native grass species and a variety of wildflowers and legumes (forbs). The seed mix is specified below with line item pricing. Grasslands generally take three to five years to become established. Proverbially the old saying is “The first year they sleep, the second they creep, and the third they begin to leap!” In subsequent years additional plants can be plugged in to provide focal points as well as an even greater variety colors, forms, and texture. A cool season grass cover crop is specified to protect the soil and provide interest while the warm season grasses become established.

**Installation Outline**

Step 1:

Labor (Labor costs include travel time, expenses, and planning)

Stake Plot Boundaries

Herbicide Treatment \*\*

Cleanup/safety info

Materials

Herbicide, Stakes, Flagging

Step 2:

Labor (Labor costs include travel time, expenses, and planning)

Seed drill prep (loading, calibration, adjustment)

Seeding (using drill – hillside area)

Watering (pump sprayer if needed)

Materials

Grass/forb Base Seed Mix as shown below \*\*\*

Clean/native straw (if needed)

Equipment (Tractor, No Till Seed Drill, and possibly Water Pump)

General Services:

Design seed mix and review with you

Finalize seed mix

Order seed

Coordinate of labor and materials

\*\* You will need to keep people and pets out of the installation area for at least 4 hours and preferably 24 hours after the herbicide treatment with glyphosate herbicide labeled safe for aquatic use.

**Installation cost not to exceed \$1600**

**Total Cost including seed \$1,725 for ¼ acre hillside.**

**Laurel Residence**  
**BASE SEED MIX for 0.25 Acre**

	Common Name	Species Name	Order Ozs.
*	Sideoats grama	<i>Bouteloua curtipendula</i>	6
*	Switchgrass	<i>Panicum virgatum</i>	6
*	Little Bluestem	<i>Schizachyrium scoparium</i>	12
*	Partridge pea	<i>Cassia Fasciculata</i>	7.5
*	Purple prairie clover	<i>Dalea purpureum</i>	4
*	Illinois bundleflower/ Prairie mimosa	<i>Desmanthes illinoensis</i>	1
*	Purple coneflower	<i>Echinacea purpurea</i>	4
*	False/Oxeye sunflower	<i>Heliopsis helianthoides</i>	1
*	Bergamot	<i>Monarda fistulosa</i>	2
*	Greyheaded coneflower	<i>Ratibida pinnata</i>	4
*	Blackeyed susan	<i>Rudbeckia hirta</i>	2
	Butterfly milkweed	<i>Asclepias tuberosa</i>	1
*	*Roundheaded lespedeza	<i>Lespedeza capitata</i>	1
	Redtop (as cover crop)	<i>Agrostis alba</i>	8
	Price of Seed (through KY native provider)	Native seed 3.84 Lbs. Forb/grass ratio: 60/40	\$95.81
	Shipping:		20.37
	Sales Tax:		6.97
	Total Seed Cost:		\$123.15

**Optional/Alternate Species**

Common Name	Species Name	\$/OZ	Order Oz.	Price**
Shorts aster	<i>Aster shortii</i>	50.00	1	50.00
Bottlebrush grass	<i>Elymus hystrix</i>	6.00	2	12.00
Silky wild rye	<i>Elymus villosa</i>	6.00	2	12.00
*Rattlesnake master	<i>Eryngium yuccafolium</i>	7.25	4	29.00
*Rigid goldenrod	<i>Solidago rigida</i>	8.44	2	16.88
Sweet blackeyed Susan	<i>Rudbeckia subtomentosa</i>	6.00	4	24.00
Browneyed susan	<i>Rudbeckia triloba</i>	3.00	4	12.00

\* Indicates species available from KY provider/mostly ecotype seed. Other species would be ordered from out-of-state / outside of eco-region.

\*\* Price for alternates does not include shipping. If you choose to add any of these you can estimate shipping at 15%; however, actual shipping may be less and you will only be charged actual shipping rate.

Picture separate

## Joys of a native meadow in summer